

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027013**Date Inspected:** 09-Jan-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** As noted below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

12E/PP114/E3 Lifting Lug Hole W4 (Interior)

This QA Inspector at random intervals observed Shielded Metal Arc Welding (SMAW) performed by ABF certified welder Salvador Sandoval ID 2202 on lifting lug hole W4 located at 12E/PP114/E3 on the interior of the OBG. The welding was performed in the 4G overhead position and Mr. Sandoval utilized 3.2mm E7018-H4R electrodes with constant amperage of 128. This QA Inspector noted QC Inspector Fred Von Hoff monitored Mr. Sandoval's welding and observed the parameters as contained within ABF-WPS-D1.5-1110A-Revision 1. This QA Inspector observed the welder employ a small disc grinder to blend the weld upon completing a pass and measure the inter-pass temperature prior to beginning welding. This QA Inspector made subsequent observations and noted that the work at this location was completed on this date and appeared to be in general conformance with the contract specifications.

12W/13W/D2 Repair (Exterior)

This QA Inspector randomly observed ABF welder Fred Kaddu performing back gouge operations utilizing the Plasma Arc Cutting (PAC) process to excavate an Ultrasonic (UT) rejectable indication. Upon completion of the excavation QC Inspector Sal Merino performed a Magnetic Particle Inspection (MT) of the site to ensure

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soundness of the metal and recorded dimensions of the area as; y + 3470, with a depth of 19mm's a width of 35mm's and a length of 140mm's. This QA Inspector randomly observed the in process repair welding by Fred Kaddu ID 2188 in the 4G overhead position performing the SMAW process. This QA Inspector observed the welder clean the work after each pass and monitor the inter pass temperatures. This QA Inspector observed the QC Inspector monitor the welding and the parameters to ensure compliance with ABF-WPS-D1.5-1001-Repair. This QA Inspector noted that the work was in progress and appeared to be in general conformance with the contract specifications.

Ultrasonic Inspection (Exterior)

This QA Inspector performed Ultrasonic Testing (UT) on approximately 25% of the welds listed below. These welds were previously accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. This QA observed no rejectable indications at the time of testing. This QA generated a TL-6027 UT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

A2 from 4000mm's to A3 at 550mm's. This joint is a Seismic Performance Critical Member (SPCM).

Lifting Lug Holes W1-W4 at 11E/PP101/E3

Lifting Lug Hole W1 at 11E/PP103/E3

Magnetic Particle Inspection (Exterior)

This QA Inspector performed a Magnetic Particle (MT) Inspection of the locations listed above. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications.

12E/13E/E1 Repair (Exterior)

This QA Inspector randomly observed ABF welder Wai Kit Lai performing the back-gouge operation of ultrasonic rejectable indications on "E1" at 12E/13E located at "Y" 2870 mm: (25 mm wide; 150 mm length; and 16 mm in depth), "Y" 2760 mm: (25 mm wide; 130 mm length; and 18 mm in depth), "Y" 2650 mm: (25 mm wide; 190 mm length; and 21 mm in depth), "Y" 2090 mm: (30 mm wide; 135 mm length; and 21 mm in depth). This QA Inspector observed QC Inspector Fred Von Hoff perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

This QA Inspector randomly observed ABF welder Wai Kit Lai (ID 2953) performing the repair welding operation of four (4) excavations as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on "E1" at 12E/13E. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Fred Von Hoff verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters were in accordance with WPS D1.5-1001- Repair. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work is in progress.

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12E/13E/D1 Repair (Exterior)

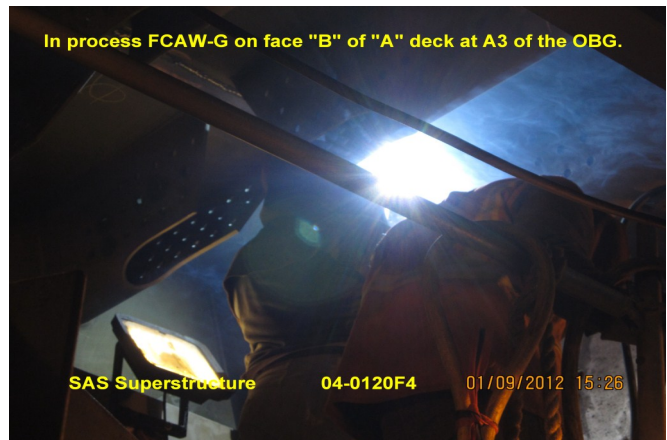
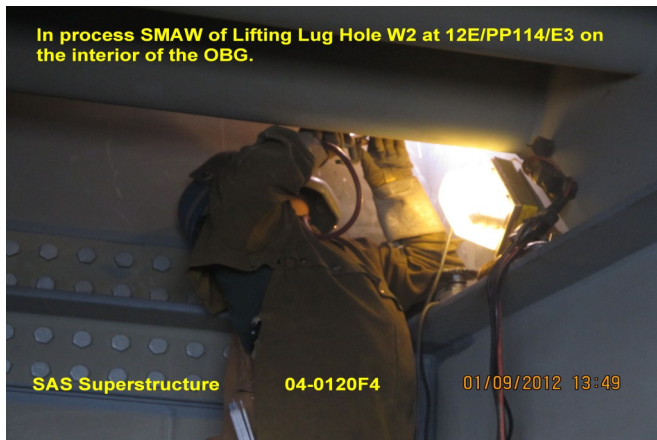
This QA Inspector randomly observed the back gouging operations by ABF welder Xiao Jian Wan on “D1” at 12E/13E on the exterior of the OBG. The locations of the excavations were recorded as; y + 1660: (30 mm in width, 210 mm’s in length and 25 mm’s deep), y + 1340: (25 mm’s in width, 180 mm’s in length and 30 mm’s deep), y + 1120: (35 mm’s in width, 150 mm’s in length and 17 mm’s deep). Upon completion of the excavating, this QA Inspector observed QC Inspector Fred Von Hoff perform an MT Inspection to ensure soundness of the metal. It was noted that no rejectable indications were found.

This QA Inspector randomly observed ABF welder Xiao Jian Wan (Welder ID 9677) performing the repair welding operation of three (3) ultrasonic indications as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on “D1” of 12E/13E. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Fred Von Hoff verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters (Amps=136) were in accordance with WPS D1.5–1001- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. The issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

Summary of Conversations:

There were no pertinent conversations to report.



Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Frey, Doug

Quality Assurance Inspector

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Reviewed By: Levell,Bill

QA Reviewer